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Using some phytogetic natural compounds as antioxidant and their effects on productive and reproductive performance of rabbit

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Abstract

This investigation was conducted to evaluate the effect of some phytogetic natural compounds (ginger and/or thyme) aqueous extracts as natural antioxidants and their effects on the productive and reproductive performance of growing V-line male rabbits. A total of 24 rabbits, three months old, 1.465 ± 0.12 kg average body weight (BW) were used in a complete randomized design. In this study, rabbits were weighed individually and assigned randomly to four equal groups of 6 animals/each. The first group (G1) received fresh water and served as control, rabbits of the second group (G2) were taken 100 mg ginger extract / kg BW in drinking water daily. The third group (G3) was taken 50 mg/kg BW in drinking water of the thyme aqueous extract daily, and the fourth group (G4) was taken 100 mg/kg BW of the ginger aqueous extract plus 50 mg/kg BW of the thyme aqueous extract in drinking water daily.

The results showed that oral administration of ginger and/or thyme aqueous extracts improved ($P < 0.001$) growth performance and feed conversion ratio compared to control. The results indicated that treated groups reached faster to puberty with greater body weight, larger testicular size and higher testosterone level than control. Also, most semen characteristics were higher in treated groups compared with the control group. The incorporation of ginger and thyme aqueous extract improved ($P < 0.001$) carcass characteristics and caecum activity without any side effects on internal organs. The oral administration of ginger and/or thyme aqueous extracts to growing rabbits increased ($P < 0.001$) serum protein profile compared with control group. Moreover, results of group 2 showed significant ($P < 0.001$) decrease in glucose, cholesterol, triglyceride and very low-density lipoprotein cholesterol compared with group 3 and 4. Also, treated groups showed no adverse effects on liver, kidney function, testes parameters, and histological structures and ameliorated antioxidant status compared with the control group. **In conclusion**, aqueous extracts of ginger and/or thyme can be used as a growth promoter and enhancing physiological responses as a result of the positive effect on blood metabolites and improvement productive and reproductive performance of rabbits.

Keywords: Rabbit, ginger, thyme, reproductive, biochemical, antioxidant.

List of Contents

Title	Page No.
- ABSTRACT.	
1. INTRODUCTION	1
2. REVIEW OF LITERATURE	4
2.1. Phytogetic feed additives	4
2.1.1. Antioxidant properties	4
2.1.2. Antimicrobial action	5
2.1.3. Growth-promoting efficacy	6
2.2. Ginger (<i>Zingiber officinale</i>)	8
2.2.1. Antioxidant properties:	9
2.2.2. Mode of action	10
2.2.3. Composition and active constituents	12
2.3. Thyme (<i>Thymus vulgaris</i>)	15
2.3.1. Antioxidant properties:	15
2.3.2. Mode of action	16
2.3.3. Composition and active constituents	17
2.4. Effect of ginger and thyme on growth performance	19
2.4.1. Live body weight	19
2.4.2. Body weight gain	21
2.5. Effect of ginger and thyme on feed efficiency	24
2.5.1. Feed consumption	24
2.5.2. Feed conversion ratio	26
2.6. Effect of ginger and thyme on reproductive parameters	30
2.7. Effect of ginger and thyme on carcass characteristics and caecum activity	33
2.7.1. Carcass characteristics	33
2.7.2. Caecum activity	37
2.8. Effect of ginger and thyme on blood serum parameters	38
2.8.1. Liver function	39
2.8.2. Kidney function	41
2.8.3. Lipid profile	42
2.8.4. Glucose concentration	45
3. AIM OF THE WORK	48
4. MATERIALS AND METHODS	49
4.1. Experimental design	49
4.2. Preparation of ginger and thyme aqueous extracts	50
4.3. Growth performance	50

4.4. Feed efficiency	51
4.5. Reproductive parameters	51
4.6. Carcass and caecum measurements	52
4.7. Collection of blood and tissue samples	53
4.8. Biochemical Analyses	53
4.9. Testosterone hormone	54
4.10. Oxidative stress and antioxidant markers	54
4.11. Statistical analysis	54
5. RESULTS	55
5.1. Effect of ginger and/or thyme aqueous extracts on growth performance and feed efficiency	55
5.1.1. Growth performance	55
5.1.2. Feed efficiency	55
5.2. Effect of ginger and/or thyme aqueous extracts on reproductive performance	55
5.2.1. Some reproductive traits	55
5.2.2. Some semen characteristics	56
5.3. Effect of ginger and/or thyme aqueous extracts on carcass characteristics and caecum activity	56
5.3.1. Carcass characteristics	56
5.3.2. Caecum activity	57
5.4. Effect of ginger and/or thyme aqueous extracts on economic efficiency	57
5.5. Effect of ginger and/or thyme aqueous extracts on biochemical variables	57
5.5.1. Serum proteins content and liver function enzymes activity	57
5.5.2. Kidney functions	58
5.5.3. Lipid profile	58
5.5.3. Serum glucose level	58
5.5.3. oxidative stress parameters	59
5.6. Effect of ginger and/or thyme aqueous extracts on histological structure	59
5.6.1. Liver	59
5.6.2. Kidney	59
5.6.3. Testis	60
6. FIGURES, TABLES AND GRAPHS	61
7. DISCUSSION	89
8. SUMMARY AND CONCLUSION	103
9. REFERENCES	106
ARABIC SUMMARY	

List of Figures

Figure No.	Title	Page No.
1 (a & b)	Role of ginger and its constituents in biological applications.	12
2 (a & b)	Modes of action and biological application of thymol and its constituents.	17
3 - 6	Photomicrographs of liver section	83-84
7 - 10	Light micrographs of kidney sections	85-86
11 - 14	Photomicrograph of seminiferous tubules of testis sections.	87-88

List of Tables

Table No.	Title	Page No.
1	Biological activities of ginger active compounds.	13
2	Ginger volatile oil constituents	14
3	Composition of the essential oils of <i>Thymus Vulgaris</i> L	18
4	Approximate chemical composition and calculated analysis of the experimental diet for growing rabbits.	50
5	Effect of ginger and/or thyme aqueous extracts administration on growth performance and feed efficiency of rabbits	61
6	Effect of ginger and/or thyme aqueous extracts administration on reproductive performance and sexual activity of rabbits.	63
7	Effect of ginger and/or thyme aqueous extracts administration on some physical semen characteristics of rabbits.	65
8	Effect of ginger and/or thyme aqueous extracts administration on carcass traits of rabbits.	67
9	Effect of ginger and/or thyme aqueous extracts administration on relative organ weight of rabbits.	69
10	Effect of ginger and/or thyme aqueous extracts administration on caecum activity of rabbits.	71
11	Effect of ginger and/or thyme aqueous extracts administration on economic efficiency of rabbits.	72
12	Effect of ginger and/or thyme aqueous extracts administration on serum protein profile and ALT & AST activities of rabbits	74
13	Effect of ginger and/or thyme aqueous extracts administration on kidney function markers of rabbits	76
14	Effect of ginger and/or thyme aqueous extracts administration on lipid profile and glucose level of rabbits	78
15	Effect of ginger and/or thyme aqueous extracts administration on glucose level of rabbits	80
16	Effect of ginger and/or thyme aqueous extracts administration on serum oxidative stress and antioxidant status of rabbits	81

List of Graphs

Graph No.	Title	Page No.
1	Effect of different treatments on body weight gain and feed intake	62
2	Effect of different treatments on growth rate and feed conversion ratio	62
3	Effect of different treatments on age and weight at puberty	64
4	Effect of different treatments on testes mass index and reaction time	64
5	Effect of different treatments on serum testosterone level	64
6	Effect of different treatments on semen volume and progressive motility	66
7	Effect of different treatments on total sperm output ($\times 10^6$), live sperm (%) and abnormality (%)	66
8	Effect of different treatments on carcass traits	68
9	Effect of different treatments on organ weight	70
10	Effect of different treatments on caecum activity	71
11	Effect of different treatments on economic efficiency	73
12	Effect of different treatments on serum protein profile content	75
13	Effect of different treatments on the activity of liver function enzymes (ALT & AST)	75
14	Effect of different treatments on kidney function markers	77
15 (a-b)	Effect of different treatments on lipid profile	79
16	Effect of different treatments on glucose level	80
17 (a-c)	Effect of different treatments on serum oxidative stress and anti-oxidant status	82